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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,241	05/30/2001	Akira Arai	9319A-000220	8821

27572 7590 02/27/2003

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EXAMINER

SHEEHAN, JOHN P

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 02/27/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/870,241	ARAI ET AL.	
	Examiner	Art Unit	
	John P. Sheehan	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10 and 13-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                      | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>9, 11 &amp; 13</u> . | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Status of the Amendment Submitted December 9, 2002***

1. On page 2 of the amendment submitted December 9, 2002, applicants have given instructions to "cancel claims 10-11 and 18-27". However, on page 3 of said amendment applicants have attempted to amend claim 10 and on page 4, lines 1 and 2 of the same amendment applicants indicate that, "Claims 9, 11 and 12, and 17-29 have been canceled". Thus there is an inconsistency in the amendment as to which claims should be canceled. Applicants are advised that the Examiner has decided that the statement on page 4, lines 1 and 2, that claims 1 to 8, 10 and 13 to 16 are now pending and that claims 9, 11, 12 and 17 to 29 have been canceled makes the most sense in the context of the applicants' response. Accordingly, claims 9, 11, 12 and 17 to 29 have been canceled leaving claims 1 to 8, 10 and 13 to 16 pending. If the Applicants do not agree with the Examiner's interpretation of the amendment applicants should advise the Examiner in their next response.

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

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***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Toshio et al. (Toshio, Japanese Patent Document No. 09-271909, cited by the applicants in the IDS submitted January 14, 2003).

Toshio teaches a specific example of a cooling roll having a groove wherein the groove has a width of 30 microns (See the English language translation submitted by the applicants, paragraph 15, line 8) this example is encompassed by applicants' claim 1 which recites a groove width of 0.5 to 90 microns.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 3 and 5 to 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toshio as applied to claim 1 above, and further in view of Fukuno et al. (Fukuno, US Patent No. 5,665,177).

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Toshio teaches a cooling roll for manufacturing a ribbon shaped metal alloy material wherein the cooling roll has a grooved surface. Toshio teaches that the grooves are 0.1 to 50 microns wide and have a depth of about 10 microns or more. Toshio teaches that the groove width of 0.1 to 50 microns is such that the molten metal does not enter the groove (See paragraph 13 of the English language translation submitted by the applicants).

Fukuno teaches a cooling roll for manufacturing a ribbon shaped metal alloy material wherein the cooling roll has a grooved surface. Fukuno teaches that to minimize variation in the crystal size of the product, that is, to make a more uniform product, the cooling roll is preferably comprised of a base and a surface layer (column 6, lines 65 to 67). Fukuno teaches that the outer surface layer on the cooling roll should have a thermal conductivity lower than the thermal conductivity of the cooling roll base (column 7, lines 1 to 7) as recited in applicants' claim 3. Fukuno teaches a thermal conductivity of the cooling roll outer surface that overlaps applicants' claim 5 (column 7, lines 3 to 6). Fukuno teaches a cooling roll surface layer having a thickness of 10 to 100 microns (column 7, lines 18 to 20).

The claims and Toshio differ in that Toshio does not teach a cooling roll comprised of a base and a surface layer nor do the references teach a thermal expansion coefficient as recited in applicants' claim 6.

However, one of ordinary skill in the art at the time the invention was made would have been motivated to modify Toshio's cooling roll to a cooling roll having a base and a surface coating so as to minimize the variation in crystal grain size and make the

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product more uniform as taught by Fukuno. Further, the determination of an appropriate thermal expansion coefficient for the surface layer of the cooling roll is consider well within the skill of one of ordinary skill in the art.

6. Claims 1, 10 and 14 to 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartlett et al. (Bartlett, US Patent No. 4,865,117).

Bartlett teaches a cooling roll for manufacturing a ribbon shaped metal alloy material wherein the cooling roll has a grooved surface (Abstract and column 1, lines 50 to 55). Bartlett teaches that the average width of the land or ridge is 0.025 to 0.635 mm (25 to 635 microns) which overlaps the average ridge width of 0.5 to 95 microns recited in applicants' claim 10. Bartlett teaches that the grooves are helical (column 3, line 20), that is, spirally wound as recited in applicants' claim 14. Bartlett appears to teach groove configurations that overlap the groove limitations recited in applicants' claims 15 and 16 (column 3, lines 38 to 55). Bartlett teaches that the ratio of the average land width to the average groove width is about 0.5 to 1.5 (column 3, lines 49 to 51) or

$$W_L/W_G = 0.5 \text{ to } 1.5$$

wherein

$W_L$  is the land width and

$W_G$  is the groove width

and

$$W_G = W_L / 0.5 \text{ to } W_L / 1.5$$

$$W_L = 0.025 \text{ to } 0.635 \text{ (column 3, lines 45 to 46)}$$

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therefore the maximum  $W_G$  is

$$W_G = 0.635/0.5 = 1.27 \text{ mm or } 1270 \text{ microns}$$

and the minimum  $W_G$  is

$$W_G = 0.025/1.5 = 0.0167 \text{ mm or } 16.7 \text{ microns}$$

Accordingly, Bartlett teaches a groove width of 16.7 to 1270 microns which overlaps the groove width of 0.5 to 90 microns recited in applicants' claim 1.

The claims and Bartlett differ in that Bartlett does not teach the exact same values for the groove configurations as recited in the applicants' claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because where the claimed range overlaps the prior art a prima facie case of obviousness exists, MPEP 2144.05.

7. Claims 2, 3, and 5 to 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartlett et al. as applied to claims 1, 10 and 14 to 16 above, and further in view of Fukuno et al. (Fukuno, US Patent No. 5,665,177).

Bartlett teaches and is applied as set forth above.

Fukuno teaches a cooling roll for manufacturing a ribbon shaped metal alloy material wherein the cooling roll has a grooved surface. Fukuno teaches that to minimize variation in the crystal size of the product, that is, to make a more uniform product, the cooling roll is preferably comprised of a base and a surface layer (column 6, lines 65 to 67). Fukuno teaches that the outer surface layer on the cooling roll should have a thermal conductivity lower than the thermal conductivity of the cooling roll base, (column 7, lines 1 to 7) as recited in applicants' claim 3. Fukuno teaches a thermal

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conductivity of the cooling roll outer surface that overlaps applicants' claim 5 (column 7, lines 3 to 6). Fukuno teaches a cooling roll surface layer having a thickness of 10 to 100 microns (column 7, lines 18 to 20).

The claims and Bartlett differ in that Bartlett does not teach a cooling roll comprised of a base and a surface layer nor do the references teach the thermal expansion coefficient as recited in applicants' claim 6.

However, one of ordinary skill in the art at the time the invention was made would have been motivated to modify Bartlett's cooling roll to a cooling roll having a base and a surface coating so as to minimize the variation in crystal grain size and make the product more uniform as taught by Fukuno. Further, the determination of an appropriate thermal expansion coefficient for the surface layer of the cooling roll is considered well within the skill of one of ordinary skill in the art.

### ***Double Patenting***

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).



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Claims 1 to 8, 10 and 13 to 16 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 to 17 of copending Application No. 09/833,806. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed cooling rolls in each of these two sets of claims overlap. Both sets of claims are directed to a cooling roll for manufacturing a ribbon-shaped magnetic material. The instant claims recite the presence of "dimple correcting means" while the claims in 09/833,806 recite the presence of "gas expelling means". However, each of these terms encompasses the presence of grooves on the cooling rolls. Accordingly, these two sets of claims are considered to overlap. In view of this overlap, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because where the claims overlap a prima facie case of obviousness exists, MPEP 2144.05.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

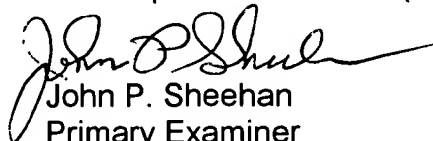
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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (703) 308-3861. The examiner can normally be reached on T-F (6:30-5:00) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

  
John P. Sheehan  
Primary Examiner  
Art Unit 1742

jps  
February 23, 2003